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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/696,566	10/25/2000	Richard H. Boivie	YOR920000591US1	2909

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EXAMINER
TRAN, PHILIP B

ART UNIT	PAPER NUMBER
2155	

DATE MAILED: 08/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/696,566	BOIVIE, RICHARD H.	
	Examiner	Art Unit	
	Philip B. Tran	2155	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 June 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Response to Amendment

1. This office action is in response to the Amendment filed on 06/06/2006. Claims 1, 3, 6, 8, 13 and 17 have been amended. Therefore, claims 20 are presented for further examination.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 8-20 of the instant application is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over some claims of copending U.S. Patent Application No. 09/696,116 in view of Francis et al (Hereafter, Francis), U.S. Pat. No. 5,331,637. Although the conflicting claims are not identical, they are not patentably distinct from each other because modifications are obvious.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Regarding claim 8, claim 10 of copending U.S. Pat. Application No. 09/696,116 recites all limitations in claim 8 [see Amendment of U.S. Pat. Application No. 09/696,116 filed 12/31/2005, Page No. 2]. It does not explicitly teach the multicast packet includes a packet header comprising a plurality of destination network addresses wherein at least one of the plurality of destination network addresses is a unicast address and wherein the packet/message is destined for reception at the destination corresponding to the unicast address as an ordinary unicast packet.

However, Francis, in the same field of multicast distribution of packets endeavor, discloses the multicast packet includes a packet header comprising the plurality of destination network addresses wherein at least one of the plurality of destination network addresses is a unicast address [see Francis, Col. 5, Line 40 to Col. 6, Line 54 and Col. 7, Line 38 to Col. 8, Line 33 and Col. 11, Lines 27-48]. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate the teaching of unicast address in the list of destination addresses disclosed by Francis into the transmission of multicast messages/packets across the network of

information processing units and intermediate nodes disclosed by Haggerty, in order to branch packets to appropriate destination and thus saving time for packet distribution process.

Regarding claim 9, claim 9 of copending U.S. Pat. Application No. 09/696,116 recites all limitations in claim 9 [see Amendment of U.S. Pat. Application No. 09/696,116 filed 12/31/2005, Page No. 2].

Regarding claim 10, claim 10 of copending U.S. Pat. Application No. 09/696,116 recites all limitations in claim 10 [see Amendment of U.S. Pat. Application No. 09/696,116 filed 12/31/2005, Page No. 2].

Regarding claim 11, claim 11 of copending U.S. Pat. Application No. 09/696,116 recites all limitations in claim 11 [see Amendment of U.S. Pat. Application No. 09/696,116 filed 12/31/2005, Page No. 3].

Regarding claim 12, claim 12 of copending U.S. Pat. Application No. 09/696,116 recites all limitations in claim 12 [see Amendment of U.S. Pat. Application No. 09/696,116 filed 12/31/2005, Page No. 3].

Regarding claim 13, claim 15 of copending U.S. Pat. Application No. 09/696,116 recites all limitations in claim 13 [see Amendment of U.S. Pat. Application No.

09/696,116 filed 12/31/2005, Page No. 3]. It does not explicitly teach the multicast packet includes a packet header comprising a plurality of destination network addresses wherein at least one of the plurality of destination network addresses is a unicast address and wherein the packet/message is destined for reception at the destination corresponding to the unicast address as an ordinary unicast packet.

However, Francis, in the same field of multicast distribution of packets endeavor, discloses the multicast packet includes a packet header comprising the plurality of destination network addresses wherein at least one of the plurality of destination network addresses is a unicast address [see Francis, Col. 5, Line 40 to Col. 6, Line 54 and Col. 7, Line 38 to Col. 8, Line 33 and Col. 11, Lines 27-48]. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate the teaching of unicast address in the list of destination addresses disclosed by Francis into the transmission of multicast messages/packets across the network of information processing units and intermediate nodes disclosed by Haggerty, in order to branch packets to appropriate destination and thus saving time for packet distribution process.

Regarding claim 14, claim 15 of copending U.S. Pat. Application No. 09/696,116 recites all limitations in claim 14 [see Amendment of U.S. Pat. Application No. 09/696,116 filed 12/31/2005, Page No. 3].

Regarding claim 15, claim 15 of copending U.S. Pat. Application No. 09/696,116 recites all limitations in claim 15 [see Amendment of U.S. Pat. Application No. 09/696,116 filed 12/31/2005, Page No. 3].

Regarding claim 16, claim 16 of copending U.S. Pat. Application No. 09/696,116 recites all limitations in claim 16 [see Amendment of U.S. Pat. Application No. 09/696,116 filed 12/31/2005, Page No. 4].

Regarding claim 17, claim 19 of copending U.S. Pat. Application No. 09/696,116 recites all limitations in claim 17 [see Amendment of U.S. Pat. Application No. 09/696,116 filed 12/31/2005, Page No. 4]. It does not explicitly teach the multicast packet includes a packet header comprising a plurality of destination network addresses wherein at least one of the plurality of destination network addresses is a unicast address and wherein the packet/message is destined for reception at the destination corresponding to the unicast address as an ordinary unicast packet.

However, Francis, in the same field of multicast distribution of packets endeavor, discloses the multicast packet includes a packet header comprising the plurality of destination network addresses wherein at least one of the plurality of destination network addresses is a unicast address [see Francis, Col. 5, Line 40 to Col. 6, Line 54 and Col. 7, Line 38 to Col. 8, Line 33 and Col. 11, Lines 27-48]. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate the teaching of unicast address in the list of destination addresses disclosed

by Francis into the transmission of multicast messages/packets across the network of information processing units and intermediate nodes disclosed by Haggerty, in order to branch packets to appropriate destination and thus saving time for packet distribution process [see Imai, Col. 15, Lines 30-38].

Regarding claim 18, claim 19 of copending U.S. Pat. Application No. 09/696,116 recites all limitations in claim 18 [see Amendment of U.S. Pat. Application No. 09/696,116 filed 12/31/2005, Page No. 4].

Regarding claim 19, claim 19 of copending U.S. Pat. Application No. 09/696,116 recites all limitations in claim 19 [see Amendment of U.S. Pat. Application No. 09/696,116 filed 12/31/2005, Page No. 4].

Regarding claim 20, claim 20 of copending U.S. Pat. Application No. 09/696,116 recites all limitations in claim 20 [see Amendment of U.S. Pat. Application No. 09/696,116 filed 12/31/2005, Page No. 4].

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 3, 6, 8, 10, 13-15 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haggerty et al (Hereafter, Haggerty), U.S. Pat. No. 6,331,983 in view of Hardjono, U.S. Pat. No. 6,643,773 and further in view of Francis et al (Hereafter, Francis), U.S. Pat. No. 5,331,637.

Regarding claim 1, Haggerty teaches a method for distributing packets or messages efficiently across a network of information processing units (= Mcast Hosts) and intermediate nodes (= Mcast Routers/Switches) (i.e., multicasting packets across switch/router networks) [see Figs. 2-5 and Abstract], the method on an information processing unit comprising the steps of:

receiving a message created and sent by a user, the user associating the message with a plurality of individual destinations (i.e., receiving multicast packet with destinations IP addresses of a multicast group) [see Col. 11, Line 60 to Col. 12, Line 15 and Col. 12, Line 55 to Col. 13, Line 12]; and

sending a single copy of the message, in a multicast packet, across the network via at least one intermediate nodes to the plurality of individual destinations corresponding to a plurality of individual destination network addresses (i.e., copying an incoming multicast packet onto each of its going tree links) [see Col. 6, Lines 12-22 and Col. 13, Lines 36-45] and using a reliable multicast technique (i.e., reliable delivery of multicast packets/messages with acknowledgment) [see Col. 17, Lines 30-64].

Haggerty does not explicitly teach distributing electronic mail message across the network using multicast technique. However, Haggerty does suggest the use of multicasting in transmission of messages/packets over the Internet such as

transmission of corporate messages to employees and video/audio conferencing [see Col. 7, Lines 5-20]. This implies that there are some forms of electronic messages involved in transmission/reception in the network.

Hardjono, in the same field of messages/packets multicasting endeavor, discloses multicasting technique is well-known in the art for transmitting data messages such as e-mail messages to selected groups of users across the network like the Internet [see Hadjono, Abstract and Col. 1, Lines 13-25]. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate multicasting technique for e-mail messages, disclosed by Hadjono, into the transmission of multicast messages/packets across the network of information processing units and intermediate nodes disclosed by Haggerty, in order to allow more users to easily create and join multicasting sessions [see Hadjono, Col. 1, Lines 13-25]. Thus, it would offer cost savings in network resources since network processing and bandwidth are conserved by transmitting a single copy of messages/packets over a distribution tree that branches out to destinations across the network.

In addition, Haggerty does suggest the use of multicasting technique with unicast packets [see Haggerty, Col. 3, Line 51 to Col. 4, Line 31]. However, Haggerty does not explicitly teach the multicast packet includes a packet header comprising the plurality of individual destination network addresses wherein at least one of the plurality of individual destination network addresses is a unicast address and wherein the packet/message is destined for reception at the destination corresponding to the unicast address as an ordinary unicast packet.

However, Francis, in the same field of multicast distribution of packets endeavor, discloses the multicast packet includes a packet header comprising the plurality of individual destination network addresses wherein at least one of the plurality of individual destination network addresses is a unicast address [see Francis, Col. 5, Line 40 to Col. 6, Line 54 and Col. 7, Line 38 to Col. 8, Line 33 and Col. 11, Lines 27-48]. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate the teaching of unicast address in the list of destination addresses disclosed by Francis into the transmission of multicast messages/packets across the network of information processing units and intermediate nodes disclosed by Haggerty, in order to branch packets to appropriate destination and thus saving time for packet distribution process.

Claims 3 and 6 are rejected under the same rationale set forth above to claim 1.

Regarding claim 8, Haggerty teaches a method for distributing packets or messages across a network of information processing units (= Mcast Hosts) and intermediate nodes (= Mcast Routers/Switches) (i.e., multicasting packets across switch/router networks) [see Figs. 2-5 and Abstract], the method on an intermediate node comprising the steps of:

receiving a message in a multicast packet including a plurality of destination network addresses (i.e., receiving multicast packet with destinations IP addresses of a

multicast group) [see Col. 11, Line 60 to Col. 12, Line 15 and Col. 12, Line 55 to Col. 13, Line 12];

determining one or more "next hops" corresponding to the plurality of destination network addresses for forwarding the packet (i.e., determining where the packet gets routed to next) [see Col. 12, Line 55 to Col. 13, Line 9];

replicating the packet for each "next hop" (i.e., messages or multicast packets are replicated when the tree branches) [see Col. 6, Lines 12-22]; and

forwarding one copy of the packet to each of the "next hops" (i.e., copying an incoming multicast packet onto each of its going tree links) [see Col. 6, Lines 12-22 and Col. 13, Lines 36-45].

Haggerty does not explicitly teach distributing electronic mail message across the network using multicast technique. However, Haggerty does suggest the use of multicasting in transmission of messages/packets over the Internet such as transmission of corporate messages to employees and video/audio conferencing [see Col. 7, Lines 5-20]. This implies that there are some forms of electronic messages involved in transmission/reception in the network.

Hardjono, in the same field of messages/packets multicasting endeavor, discloses multicasting technique is well-known in the art for transmitting data messages such as e-mail messages to selected groups of users across the network like the Internet [see Hadjono, Abstract and Col. 1, Lines 13-25]. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate multicasting technique for e-mail messages, disclosed by Hadjono, into the transmission

of multicast messages/packets across the network of information processing units and intermediate nodes disclosed by Haggerty, in order to allow more users to easily create and join multicasting sessions [see Hadjono, Col. 1, Lines 13-25]. Thus, it would offer cost savings in network resources since network processing and bandwidth are conserved by transmitting a single copy of messages/packets over a distribution tree that branches out to destinations across the network.

In addition, Haggerty does suggest the use of multicasting technique with unicast packets [see Haggerty, Col. 3, Line 51 to Col. 4, Line 31]. However, Haggerty does not explicitly teach the multicast packet includes a packet header comprising a plurality of destination network addresses wherein at least one of the plurality of destination network addresses is a unicast address and wherein the packet/message is destined for reception at the destination corresponding to the unicast address as an ordinary unicast packet.

However, Francis, in the same field of multicast distribution of packets endeavor, discloses the multicast packet includes a packet header comprising the plurality of individual destination network addresses wherein at least one of the plurality of individual destination network addresses is a unicast address [see Francis, Col. 5, Line 40 to Col. 6, Line 54 and Col. 7, Line 38 to Col. 8, Line 33 and Col. 11, Lines 27-48]. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate the teaching of unicast address in the list of destination addresses disclosed by Francis into the transmission of multicast messages/packets across the network of information processing units and intermediate nodes disclosed by

Haggerty, in order to branch packets to appropriate destination and thus saving time for packet distribution process.

Regarding claim 10, Haggerty teaches the method as defined in claim 8 with all of the steps such as determining one or more "next hops" for forwarding the packet (i.e., determining where the packet gets routed to next) [see Col. 12, Line 55 to Col. 13, Line 9], replicating the packet for each "next hop" (i.e., messages or multicast packets are replicated when the tree branches) [see Col. 6, Lines 12-22], and forwarding one copy of the packet to each of the "next hops" (i.e., copying an incoming multicast packet onto each of its going tree links) [see Col. 6, Lines 12-22 and Col. 13, Lines 36-45]. In addition, Haggerty further teaches multicasting of different types of packets across the networks [see Col. 11, Lines 45-67 and Col. 12, Lines 30-31 and Figs. 4-5]. This suggests that multiple packets are processed and sent across the network from one hop to the next. Therefore, the determining, replicating and forwarding steps are repetitively executed for each newly received packet.

Regarding claim 13, Haggerty teaches a computer readable medium including instructions for distributing packets or messages efficiently across a network of information processing units (= Mcast Hosts) and intermediate nodes (= Mcast Routers/Switches) (i.e., multicasting packets across switch/router networks) [see Figs. 2-5 and Abstract], the computer readable medium comprising instructions for:

receiving a message in a multicast packet including a plurality of individual destination network addresses (i.e., receiving multicast packet with destinations IP addresses of a multicast group) [see Col. 11, Line 60 to Col. 12, Line 15 and Col. 12, Line 55 to Col. 13, Line 12];

determining the "next hop" for each individual destination network address of the plurality of individual destination network addresses (i.e., determining where the packet gets routed to next) [see Col. 12, Line 55 to Col. 13, Line 9]; and

replicating the packet for each "next hop" (i.e., messages or multicast packets are replicated when the tree branches) [see Col. 6, Lines 12-22].

Haggerty does not explicitly teach distributing electronic mail message across the network using multicast technique. However, Haggerty does suggest the use of multicasting in transmission of messages/packets over the Internet such as transmission of corporate messages to employees and video/audio conferencing [see Col. 7, Lines 5-20]. This implies that there are some forms of electronic messages involved in transmission/reception in the network.

Hardjono, in the same field of messages/packets multicasting endeavor, discloses multicasting technique is well-known in the art for transmitting data messages such as e-mail messages to selected groups of users across the network like the Internet [see Hadjono, Abstract and Col. 1, Lines 13-25]. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate multicasting technique for e-mail messages, disclosed by Hadjono, into the transmission of multicast messages/packets across the network of information processing units and

intermediate nodes disclosed by Haggerty, in order to allow more users to easily create and join multicasting sessions [see Hadjono, Col. 1, Lines 13-25]. Thus, it would offer cost savings in network resources since network processing and bandwidth are conserved by transmitting a single copy of messages/packets over a distribution tree that branches out to destinations across the network.

In addition, Haggerty does suggest the use of multicasting technique with unicast packets [see Haggerty, Col. 3, Line 51 to Col. 4, Line 31]. However, Haggerty does not explicitly teach the multicast packet includes a packet header comprising the plurality of destination network addresses wherein at least one of the plurality of destination network addresses is a unicast address and wherein the packet/message is destined for reception at the destination corresponding to the unicast address as an ordinary unicast packet.

However, Francis, in the same field of multicast distribution of packets endeavor, discloses the multicast packet includes a packet header comprising the plurality of individual destination network addresses wherein at least one of the plurality of individual destination network addresses is a unicast address [see Francis, Col. 5, Line 40 to Col. 6, Line 54 and Col. 7, Line 38 to Col. 8, Line 33 and Col. 11, Lines 27-48]. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate the teaching of unicast address in the list of destination addresses disclosed by Francis into the transmission of multicast messages/packets across the network of information processing units and intermediate nodes disclosed by

Haggerty, in order to branch packets to appropriate destination and thus saving time for packet distribution process.

Regarding claim 14, Haggerty further teaches the computer readable medium as defined in claim 13, further comprising the instruction for:

forwarding a copy of the packet to each "next hop" (i.e., copying an incoming multicast packet onto each of its going tree links) [see Col. 6, Lines 12-22 and Col. 13, Lines 36-45].

Regarding claim 15, Haggerty teaches the computer readable medium as defined in claim 14 with instructions for carrying out all of the steps such as receiving a packet containing address information for a list of destinations (i.e., receiving multicast packet with destination IP address of a multicast group) [see Col. 11, Line 60 to Col. 12, Line 15 and Col. 12, Line 55 to Col. 13, Line 12], determining the "next hop" for each of those destinations (i.e., determining where the packet gets routed to next) [see Col. 12, Line 55 to Col. 13, Line 9], and replicating the packet for each "next hop" (i.e., messages or multicast packets are replicated when the tree branches) [see Col. 6, Lines 12-22]. In addition, Haggerty further teaches multicasting of different types of packets across the networks [see Col. 11, Lines 45-67 and Col. 12, Lines 30-31 and Figs. 4-5]. This suggests that multiple packets are processed and sent across the network from one hop to the next. Therefore, the determining, replicating and forwarding steps are repetitively executed for each newly received packet.

Regarding claim 17, Haggerty teaches an intermediate node for distributing packets or messages efficiently across a network of information processing units (= Mcast Hosts) and intermediate nodes (= Mcast Routers/Switches) (i.e., multicasting packets across switch/router networks) [see Figs. 2-5 and Abstract], the intermediate node comprising:

a reception unit for receiving a message in a multicast packet including a plurality of individual destination network addresses (i.e., receiving multicast packet with destinations IP addresses of a multicast group) [see Col. 11, Line 60 to Col. 12, Line 15 and Col. 12, Line 55 to Col. 13, Line 12];

a determination unit for determining the "next hop" for each individual destination network address of the plurality of individual destination network addresses (i.e., determining where the packet gets routed to next) [see Col. 12, Line 55 to Col. 13, Line 9]; and

a copying unit for replicating the packet for each of the "next hops" (i.e., messages or multicast packets are replicated when the tree branches) [see Col. 6, Lines 12-22].

Haggerty does not explicitly teach distributing electronic mail message across the network using multicast technique. However, Haggerty does suggest the use of multicasting in transmission of messages/packets over the Internet such as transmission of corporate messages to employees and video/audio conferencing [see Col. 7, Lines 5-20]. This implies that there are some forms of electronic messages involved in transmission/reception in the network.

Hardjono, in the same field of messages/packets multicasting endeavor, discloses multicasting technique is well-known in the art for transmitting data messages such as e-mail messages to selected groups of users across the network like the Internet [see Hadjono, Abstract and Col. 1, Lines 13-25]. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate multicasting technique for e-mail messages, disclosed by Hadjono, into the transmission of multicast messages/packets across the network of information processing units and intermediate nodes disclosed by Haggerty, in order to allow more users to easily create and join multicasting sessions [see Hadjono, Col. 1, Lines 13-25]. Thus, it would offer cost savings in network resources since network processing and bandwidth are conserved by transmitting a single copy of messages/packets over a distribution tree that branches out to destinations across the network.

In addition, Haggerty does suggest the use of multicasting technique with unicast packets [see Haggerty, Col. 3, Line 51 to Col. 4, Line 31]. However, Haggerty does not explicitly teach the multicast packet includes a packet header comprising the plurality of individual destination network addresses wherein at least one of the plurality of individual destination network addresses is a unicast address and wherein the packet/message is destined for reception at the destination corresponding to the unicast address as an ordinary unicast packet.

However, Francis, in the same field of multicast distribution of packets endeavor, discloses the multicast packet includes a packet header comprising the plurality of individual destination network addresses wherein at least one of the plurality of

individual destination network addresses is a unicast address [see Francis, Col. 5, Line 40 to Col. 6, Line 54 and Col. 7, Line 38 to Col. 8, Line 33 and Col. 11, Lines 27-48]. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate the teaching of unicast address in the list of destination addresses disclosed by Francis into the transmission of multicast messages/packets across the network of information processing units and intermediate nodes disclosed by Haggerty, in order to branch packets to appropriate destination and thus saving time for packet distribution process.

Regarding claim 18, Haggerty further teaches the intermediate node as defined in claim 17, further comprising:

a forwarding unit for forwarding a copy of the packet to each of the "next hops" (i.e., copying an incoming multicast packet onto each of its going tree links) [see Col. 6, Lines 12-22 and Col. 13, Lines 36-45].

Regarding claim 19, Haggerty further teaches the intermediate node as defined in claim 18 such as a reception unit for receiving a packet containing address information for a plurality of destinations (i.e., receiving multicast packet with destination IP address of a multicast group) [see Col. 11, Line 60 to Col. 12, Line 15 and Col. 12, Line 55 to Col. 13, Line 12], a determination unit for determining the "next hop" for each of the destinations (i.e., determining where the packet gets routed to next) [see Col. 12, Line 55 to Col. 13, Line 9], and a copying unit for replicating the packet for each of the

"next hops" (i.e., messages or multicast packets are replicated when the tree branches) [see Col. 6, Lines 12-22]. In addition, Haggerty further teaches multicasting of different types of packets across the networks [see Col. 11, Lines 45-67 and Col. 12, Lines 30-31 and Figs. 4-5]. This suggests that multiple packets are processed and sent across the network from one hop to the next. Therefore, the determining, replicating and forwarding steps are repetitively executed for each newly received packet.

6. Claims 2, 4, 7, 9 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haggerty et al (Hereafter, Haggerty), U.S. Pat. No. 6,331,983 in view of Hardjono, U.S. Pat. No. 6,643,773 and further in view of Francis et al (Hereafter, Francis), U.S. Pat. No. 5,331,637 and further in view of Shur et al (Hereafter, Shur), U.S. Pat. No. 6,259,701.

Regarding claim 2, Haggerty, Hardjono and Francis do not explicitly teach the method as defined in claim 1, wherein the reliable multicast technique comprises a reliable Small Group Multicast technique. However, Haggerty does suggest the use of the Internet Group Management Protocol (IGMP) for managing requests to join a multicast group(s) and receive multicast traffic [see Col. 3, Lines 21-29 and Col. 4, Lines 56-61].

Shur, in the same field of messages/packets multicasting endeavor, discloses the use of multicasting data transmission with Small Group scheme [see Shur, Col. 3, Lines 33-54 and Col. 8, Lines 16-26]. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate small group multicast technique,

disclosed by Shur, into the transmission of multicast messages/packets across the network of information processing units and intermediate nodes disclosed by Haggerty, in order to support data multicasting to a fairly small group of only a few parties and thus improve the scalability of large scale groups involving multicasting process.

Claims 4 and 7 are rejected under the same rationale set forth above to claim 2.

Regarding claim 9, Haggerty, Hardjono and Francis do not explicitly teach the method as defined in claim 8 wherein the determining, replicating and forwarding steps operate according to a Small Group Multicast scheme. However, Haggerty does suggest the use of the Internet Group Management Protocol (IGMP) for managing requests to join a multicast group(s) and receive multicast traffic [see Col. 3, Lines 21-29 and Col. 4, Lines 56-61].

Shur, in the same field of messages/packets multicasting endeavor, discloses the use of multicasting data transmission with Small Group scheme [see Shur, Col. 3, Lines 33-54 and Col. 8, Lines 16-26]. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate small group multicast technique, disclosed by Shur, into the transmission of multicast messages/packets across the network of information processing units and intermediate nodes disclosed by Haggerty, in order to support data multicasting to a fairly small group of only a few parties and thus improve the scalability of large scale groups involving multicasting process.

Regarding claim 12, Haggerty, Hardjono and Francis do not explicitly teach the method as defined in claim 8, wherein the multicast packet comprises a Small Group Multicast packet. However, Haggerty does suggest the use of the Internet Group Management Protocol (IGMP) for managing requests to join a multicast group(s) and receive multicast traffic [see Col. 3, Lines 21-29 and Col. 4, Lines 56-61].

Shur, in the same field of messages/packets multicasting endeavor, discloses the use of multicasting data transmission with Small Group scheme [see Shur, Col. 3, Lines 33-54 and Col. 8, Lines 16-26]. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate small group multicast technique, disclosed by Shur, into the transmission of multicast messages/packets across the network of information processing units and intermediate nodes disclosed by Haggerty, in order to support data multicasting to a fairly small group of only a few parties and thus improve the scalability of large scale groups involving multicasting process. Therefore, the multicast packet comprises a small group multicast packet for supporting small group multicast scheme.

7. Claims 5, 11, 16 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haggerty et al (Hereafter, Haggerty), U.S. Pat. No. 6,331,983 in view of Hardjono, U.S. Pat. No. 6,643,773 and further in view of Francis et al (Hereafter, Francis), U.S. Pat. No. 6,862,279 and further in view of Provino et al (Hereafter, Provino), U.S. Pat. No. 6,269,085.

Regarding claim 5, Haggerty, Hardjono and Francis do not explicitly teach the information processing unit as defined in claim 3, wherein the transmission unit operates according to a communication protocol to process ACKs and NAKs as well as packet retransmissions. However, Hardjono does suggest the use of acknowledgments received from neighbor nodes [see Hardjono, Col. 17, Lines 39-54].

Provino, in the same field of messages/packets multicasting endeavor, discloses the use of multicasting data transmission with Acknowledgments (ACKs) and Negative Acknowledgments (NACKs) and retransmission of data packets [see Provino, Col. 1, Lines 10-21]. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate processing ACK and /or NACK and performing packet retransmissions, disclosed by Provino, into the transmission of multicast messages/packets across the network of information processing units and intermediate nodes disclosed by Haggerty, in order to indicate whether data packets were correctly received or need to be retransmitted [see Provino, Col. 2, Lines 5-11]. Thus, it would offer a more reliable multicasting of packets/messages in the network.

Regarding claim 11, Haggerty, Hardjono and Imai do not explicitly teach the method as defined in claim 8, further comprising the steps of processing ACKs and/or NAKs and performing packet retransmissions. However, Hardjono does suggest the use of acknowledgments received from neighbor nodes [see Hardjono, Col. 17, Lines 39-54].

Provino, in the same field of messages/packets multicasting endeavor, discloses the use of multicasting data transmission with Acknowledgments (ACKs) and Negative Acknowledgments (NACKs) and retransmission of data packets [see Provino, Col. 1, Lines 10-21]. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate processing ACK and /or NACK and performing packet retransmissions, disclosed by Provino, into the transmission of multicast messages/packets across the network of information processing units and intermediate nodes disclosed by Haggerty, in order to indicate whether data packets were correctly received or need to be retransmitted [see Provino, Col. 2, Lines 5-11]. Thus, it would offer a more reliable multicasting of packets/messages in the network.

Regarding claim 16, Haggerty, Hardjono and Francis do not explicitly teach the computer readable medium as defined in claim 15, further comprising the instructions for processing ACKs and/or NAKs and handling packet retransmissions. However, Hardjono does suggest the use of acknowledgments received from neighbor nodes [see Hardjono, Col. 17, Lines 39-54].

Provino, in the same field of messages/packets multicasting endeavor, discloses the use of multicasting data transmission with Acknowledgments (ACKs) and Negative Acknowledgments (NACKs) and retransmission of data packets [see Provino, Col. 1, Lines 10-21]. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate processing ACK and /or NACK and performing packet retransmissions, disclosed by Provino, into the transmission of multicast

messages/packets across the network of information processing units and intermediate nodes disclosed by Haggerty, in order to indicate whether data packets were correctly received or need to be retransmitted [see Provino, Col. 2, Lines 5-11]. Thus, it would offer a more reliable multicasting of packets/messages in the network.

Regarding claim 20, Haggerty, Hardjono and Francis do not explicitly teach the intermediate node as defined in claim 19, further comprising an acknowledge unit for processing ACKs and/or NAKs and a retransmit unit for handling packet retransmissions. However, Hardjono does suggest the use of acknowledgments received from neighbor nodes [see Hardjono, Col. 17, Lines 39-54].

Provino, in the same field of messages/packets multicasting endeavor, discloses the use of multicasting data transmission with Acknowledgments (ACKs) and Negative Acknowledgments (NACKs) and retransmission of data packets [see Provino, Col. 1, Lines 10-21]. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate processing ACK and /or NACK and performing packet retransmissions, disclosed by Provino, into the transmission of multicast messages/packets across the network of information processing units and intermediate nodes disclosed by Haggerty, in order to indicate whether data packets were correctly received or need to be retransmitted [see Provino, Col. 2, Lines 5-11]. Thus, it would offer a more reliable multicasting of packets/messages in the network.

Conclusion

8. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Other References Cited

9. The following references cited by the examiner but not relied upon are considered pertinent to applicant's disclosure.

A) Samual et al, U.S. Pat. No. 6,018,766.

B) Farinacci et al, U.S. Pat. No. 6,078,590.

C) Cole et al, U.S. Pat. No. 5,854,901.

D) Caronni et al, U.S. Pat. No. 6,049,878.

Conclusion

10. Applicant 's amendment necessitates the change of new grounds of rejection. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CAR 1.136(a).

A SHORTENED STATUTORY PERIOD FOR REPLY TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE MAILING DATE OF THIS ACTION. IN THE EVENT A FIRST REPLY IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 CAR 1.136(A) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT, HOWEVER, WILL THE STATUTORY PERIOD FOR REPLY EXPIRE LATER THAN SIX MONTHS FROM THE MAILING DATE OF THIS FINAL ACTION.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip Tran whose telephone number is (571) 272-3991. The Group fax phone number is (571) 273-8300. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar, can be reached on (571) 272-4006.

12. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Philip Tran

Philip B. Tran
Primary Examiner
Art Unit 2155
August 17, 2006